



## Assessing the Zero Hunger Target Readiness in Africa in the Face of COVID-19 Pandemic

Olotosin A. Otegunrin<sup>1\*</sup>, Oluwaseun A. Otegunrin<sup>2</sup>, Folorunso O. Fasina<sup>3</sup>, Abiodun O. Omotayo<sup>4</sup>  
and Muhammad Akram<sup>5</sup>

<sup>1</sup>Department of Agricultural Economics and Farm Management, Federal University of Agriculture, Abeokuta (FUNAAB), Nigeria; <sup>2</sup>Department of Statistics, University of Ibadan, Ibadan, Nigeria; <sup>3</sup>Emergency Centre for Transboundary Animal Diseases, Food and Agriculture Organization of the United Nations (FAO-ECTAD), Dares Salam, 14111, United Republic of Tanzania; Department of Veterinary Tropical Diseases, University of Pretoria, Onderstepoort 0110, South Africa; <sup>4</sup>Food Security and Safety Niche, Faculty of Natural and Agricultural Science, North-West University, Mmabatho, South Africa; <sup>5</sup>Department of Eastern Medicine, Government College University, Faisalabad, Pakistan

\*Corresponding author: otegunrinolotosin@yahoo.com

### Abstract

Sustainable Development Goal 2 (SDG 2) is hinged on achieving zero hunger target globally by 2030. Many developing countries, especially African countries, are challenged with extreme hunger that are often caused or compounded by bad governance, conflicts and climate change. In this paper, we assess Africa's readiness towards attaining the zero hunger target by 2030 in the face of COVID-19 pandemic. Patterns of Global Hunger Index (GHI) and each of its indicators across Africa are compared before the pandemic (2000-2019). The effect of the pandemic on the hunger situation in Africa is discussed by highlighting the mitigating measures put in place by selected African governments. We have found that most African countries have recorded steady reduction in their child mortality rates but high prevalence of undernourishment, stunting and child wasting indicates significant challenges hampering the achievement of the zero hunger target. The study recommends that African governments should prioritize sustainable agricultural practices and give serious attention to the formulation and implementation of policies that reduce hunger against the COVID-19 pandemic.

**Keywords:** African countries; COVID-19 pandemic; food security; global hunger index; zero hunger

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### INTRODUCTION

Often used outside scientific context, the term 'hunger' is specified as 'an uncomfortable or painful sensation caused by insufficient consumption of food and ranges from short-term physical discomfort to severe, life-threatening lack of food' (GFN, 2019). Food and Agriculture Organization of the United Nations (FAO) defines hunger as 'an uncomfortable or painful physical sensation caused by insufficient consumption of

dietary energy and becomes chronic when the person does not consume a sufficient amount of calories (dietary energy) on a regular basis to lead a normal, active and healthy life' (FAO et al., 2019). To end hunger, a broad definition of the phenomenon including calorie deficiencies (chronic hunger), micronutrient deficiencies (hidden hunger) and related problems needs to be considered (Gödecke et al., 2019). According to FAO et al. (2019), more than 820 million people in the world are still prone to hunger and this

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condition draws attention to the huge task of achieving the Sustainable Development Goal 2 (SDG 2) target by 2030.

Specifically, SDG 2 (Zero Hunger) aims to address the importance of food security and nutrition within the wider agenda and calls member states to 'end hunger, achieve food security and improved nutrition and promote sustainable agriculture' by 2030. The five principal targets and three implementing mechanisms of SDG 2 are highlighted in some documents released by the United Nation (UN, 2017a, 2017b; Otekunrin et al., 2019b). The principal targets of SDG 2 include: (1) end hunger and ensure access to safe, nutritious and sufficient food; (2) end all forms of malnutrition; (3) double the productivity and incomes of small-scale food producers; (4) ensure sustainable food production systems and implementing resilient agricultural practices and (5) maintain the genetic diversity of seeds, plants and animals. To reach the goals by 2030, some mechanisms have been proposed, including: (1) increasing investment through enhanced international cooperation; (2) correcting and preventing trade restrictions and distortions in global agricultural markets and (3) adopting measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information.

In Africa, hunger remains endemic in almost all sub-regions with the Prevalence of Under-nourishment (PoU) reaching a record of 22.8% in Sub-Saharan Africa (SSA). The number has been increasing consistently in Africa where it almost peaked 260 million people in 2018, with over 90 million living in SSA (FAO et al., 2019). The challenge of ending global hunger and especially hunger in the African continent is pivotal, particularly to achieving sustainable development. The prevalence of malnutrition (multiple burdens) poses a major hindrance to reaching this target with serious implications on human health and environment (Global Panel on Agriculture and Food Systems for Nutrition, 2016; Fanzo, 2019; Otekunrin et al., 2019b; GNR (Global Nutrition Report), 2020). Notably, five African countries (Democratic Republic of Congo, Ethiopia, South Sudan, Sudan and Nigeria (northern part)) are among the ten (10) countries

experiencing the worst food crisis in 2019 (Food Security Information Network, 2019).

Non-compliance or partial implementation in the investment of 10% of their Gross Domestic Product (GDP) in agriculture as contained in the African Union's (AU) Comprehensive Africa Agriculture Development Program (CAADP) in 2003 is one of the reasons for the exacerbated food insecurity and hunger in Africa (da Silva, 2019; UNECA (United Nations Economic Commission for Africa), 2020). Also, about 60% of African arable land has been degraded due to deforestation and over-exploitation, climate extremes and variability, leading to increased pressure on the continent's fragile agricultural system. Sustainable agriculture is, thus, one of the important agricultural practices for achieving zero hunger in Africa (United Nations General Assembly, 2015; FAO, 2017b).

Ending hunger in Africa requires the strengthening of sustainable food production systems and implementation of resilient agricultural practices to ensure increased agricultural productivity and improved capacity for mitigation against climate extremes and other natural disasters (Wickramasinghe, 2014). Sustainable food production system is highly important to keep a country stable at all times especially in a pandemic, such as the COVID-19. In this paper, we assess Africa's readiness towards attaining the zero hunger target by 2030 by reviewing the patterns of Global Hunger Index (GHI) scores and the indicators across Africa in 2000-2019 before the emergence of COVID-19 pandemic, the possible implications of the outbreak on the African continent and the mitigation measures to cushion the effect of the pandemic in Africa.

## MATERIALS AND METHOD

This review relies mainly on the available secondary data sources (FAO et al., 2019; Africa Centre for Disease Control, 2020; CRS, 2020; WHO, 2020a, 2020b). Other sources, relevant to this study, have been succinctly and carefully consulted. These sources include selected peer-reviewed journal articles, textbooks, handbooks, conference proceedings, bulletins, magazines and online materials. At the end of the discussion,

recommendations to achieve global zero hunger target are presented.

## RESULTS AND DISCUSSION

### Hunger in Africa

The major factors aggravating hunger in Africa are poverty, severe pre-and post-harvest losses due to high incidence of pests and diseases, unemployment (mostly among youths), conflicts, wars, insurgencies, climate extremes and variability, migration and corruption (da Silva, 2019; Otegunrin et al., 2019a). Several nations, like the Central African Republic (CAR), Somalia, Chad and South Sudan, that have been engaged in prolonged crises, have very high undernourishment and under-five mortality rates when compared to those that are not affected by conflict (FAO, 2017a; FAO GIEWS (FAO Global Information and Early Warning System), 2017; UN IGME (United Nations Inter-agency Group for Child Mortality Estimation), 2017; UNHCR (United Nations High Commissioner for Refugees), 2018; Otegunrin et al., 2019a).

High incidences of pests and diseases have also contributed to the reduction of harvests, high food prices and loss of livestock. Cassava mosaic and brown streak virus are the major diseases affecting cassava (*Manihot esculenta*), the main food crop in the Great Lakes region of East and South Africa, while the fall armyworm (*Spodoptera frugiperda*) is the major pest of maize (*Zea mays*) and sorghum (*Sorghum bicolor*) in South Sudan (FAO, 2018). Bird Flu (*Avian influenza*) caused huge economic losses for poultry farmers in many African countries during the 2006-2008 and 2015-2017 outbreaks (Otegunrin, 2007; Ntsomboh-Ntsefong et al., 2017; Fasanmi et al., 2018; Otegunrin et al., 2018).

It is also important to note that poverty, corruption and conflict events have been identified to be positively associated with hunger in most African countries. African countries with high percentage of total population in extreme poverty, high Corruption Perceptions Index (CPI) ranks and high number of conflict events have higher GHI scores. It was also reported that there is a positive association between the prevalence of stunting and the attainment of SDGs in Africa by

2030 (Smith and Haddad, 2015; Otegunrin et al. 2019a; Otegunrin et al., 2019c).

### Patterns of GHI Scores in Africa before COVID-19 Pandemic

The GHI is a tool fashioned to measure hunger at global, regional and national levels (Wiesmann, 2006). The GHI was created in 2006 by researchers from the International Food Policy Research Institute (IFPRI). Later, GHI became a joint project of *Welthungerhilfe* and *Concern Worldwide*. GHI scores are calculated every year to identify and assess progress and setbacks in fighting hunger. It is also used to compare levels of hunger among countries as well as to highlight countries where hunger is at its peak (von Grebmer et al., 2019). The scores are computed using four indicators, namely undernourishment, child wasting, child stunting and child mortality. Detailed procedures for computing GHI scores are described in von Grebmer et al. (2019), Otegunrin et al. (2019a) and Otegunrin et al. (2019b). The GHI uses a 100-point GHI severity scale where 0 is the best score (no incidence of hunger) and 100 is the worst. In terms of GHI, a country can be categorized as low (< 9.9), moderate (10.0-19.9), serious (20.0-34.9), alarming (35.0-49.9) and extremely alarming ( $\geq 50$ ).

Table 1 shows the GHI scores for African countries for year 2019 with their corresponding 2019 GHI ranks. Some African countries are not captured in Table 1 because of insufficient or lack of data for the four GHI indicators. These include Burundi, Democratic Republic of Congo, Equatorial Guinea, Eritrea, Libya, Somalia, Seychelles, Cape Verde and South Sudan. The Central African Republic (CAR) has the highest GHI score of 53.6 in Africa in 2019 and in the world (out of 117 countries), falling in the 'extremely alarming' category. Chad, Madagascar and Zambia have 2019 GHI score of 44.2, 41.5 and 38.1, respectively, which are in 'alarming category', while Ghana, South Africa and Egypt with 2019 GHI scores of 14.0, 14.0 and 14.6, respectively, are in 'moderate' category. Nigeria, Rwanda and Sudan with 2019 GHI scores of 27.9, 29.1 and 32.8, respectively, are in the 'serious' category, while Tunisia, Morocco and Mauritius with scores 6.2, 9.4 and 9.6, respectively, are in the 'low' category.

Table 1. GHI scores for Africa (2000, 2010 and 2019)

Rank	Country	2000	2010	2019
23	Tunisia	10.7	7.6	6.2
42	Morocco	15.7	10.2	9.4
43	Mauritius	15.9	14.1	9.6
47	Algeria	15.6	10.6	10.3
59	Ghana	29.0	18.2	14.0
59	South Africa	18.1	16.1	14.0
61	Egypt	16.4	16.3	14.6
64	Gabon	21.1	16.7	15.8
67	Senegal	37.3	24.1	17.9
74	Eswatini	28.9	26.7	20.9
75	Gambia	27.3	22.3	21.8
76	Cameroon	41.2	26.1	22.6
78	Malawi	44.7	31.4	23.0
79	Lesotho	32.5	26.3	23.2
80	Botswana	33.1	28.4	23.6
81	Togo	39.1	27.1	23.9
82	Benin	37.5	28.1	24.0
83	Mali	44.2	27.5	24.1
84	Cote d'Ivoire	33.7	31.0	24.9
84	Namibia	30.6	30.9	24.9
86	Kenya	36.5	28.0	25.2
88	Burkina Faso	47.4	36.8	25.8
90	Mauritania	33.5	24.8	26.7
91	Guinea	43.7	30.9	27.4
93	Nigeria	40.9	29.2	27.9
95	Eswatini	42.4	34.1	28.6
96	Mozambique	49.1	35.8	28.8
97	Ethiopia	55.9	37.2	28.9
98	Rwanda	58.1	32.9	29.1
99	Guinea-Bissau	42.4	31.0	29.6
100	Angola	65.6	39.7	29.8
101	Niger	52.5	36.5	30.2
103	Sierra Leone	54.4	40.4	30.4
104	Uganda	41.2	31.3	30.6
105	Djibouti	46.7	36.5	30.9
106	Congo (Rep)	37.8	32.2	31.0
107	Sudan	-	-	32.8
109	Zimbabwe	38.7	36.0	34.4
112	Liberia	48.4	35.2	34.9
113	Zambia	52.0	42.8	38.1
114	Madagascar	43.5	36.1	41.5
115	Chad	51.4	48.9	44.2
117	Central African Republic (CAR)	50.5	41.3	53.6

Source: Authors' collation from von Grebmer et al. (2019) and Otekunrin et al. (2019a)

Note: Countries with the same 2019 GHI have the same rank (for example, Ghana and South Africa; Côte d'Ivoire and Namibia are

both ranked 59<sup>th</sup> and 84<sup>th</sup>, respectively)

## Patterns of GHI Indicators in Africa before COVID-19 Pandemic

### Prevalence of Undernourishment (PoU)

Most African countries have witnessed steady reductions in their PoU values since 2000 (Figure 1). For example, Algeria, Morocco, Senegal and Cameroon moved from 10.7%, 6.8%, 28.7% and 30.8% in 2000 to 3.9%, 3.4%, 11.3% and 9.9%, respectively, in 2019. The PoU in Africa has consistently experienced reductions in values since 2000 in North Africa and some other African countries. The values were reduced from 2000 to 2019, especially in North Africa and some other African countries, like Algeria (10.7-3.9%), Morocco (6.8-3.4%), Cameroon (30.8-9.9%), Senegal (28.7-11.3%), Togo (31.1-16.1%) and Ethiopia, (52-21.4%). Some countries, including Nigeria (9.3-13.4%), Uganda (27.7-41%), Madagascar (34.4-44.4%) and Central African Republic (CAR) (42.5-59.6%), had a proportion of undernourished population that increased in 2019, compared to the values in 2000, while the North African countries (except Libya) had the lowest value from 2000 to 2019 in Africa (< 5%).

There were reductions in PoU in all African sub-regions (Figure 2), except the West Africa region, which had its PoU increase from 12.3% (33 millions) in 2005 to 14.7% (56.1 million) in 2018 (FAO et al., 2019; von Grebmer et al., 2019). African countries experienced fluctuating values for the prevalence of stunting before the outbreak of COVID-19 pandemic (Figure 3). For example, the Central African Republic (CAR), Madagascar and Nigeria had higher stunting prevalences of 47.4%, 46.1% and 37%, respectively, in 2019 compared to those in 2010. It was also reported that there is a positive association between the prevalence of stunting and the attainment of SDGs target in Africa by 2030 (Otekunrin et al., 2019c).

Considering the progress achieved across the African continent, many countries recorded remarkable reductions but CAR had the highest increase in stunting prevalence among all reported countries (2000 (44.4%) and 2019 (47.4%)). Ghana, Cameroon and Kenya have recorded steady reductions in their stunting prevalence values since 2000 (30.6-18.8%, 38.2-31.7% and 40.8-26.2% respectively) (von Grebmer et al., 2019).

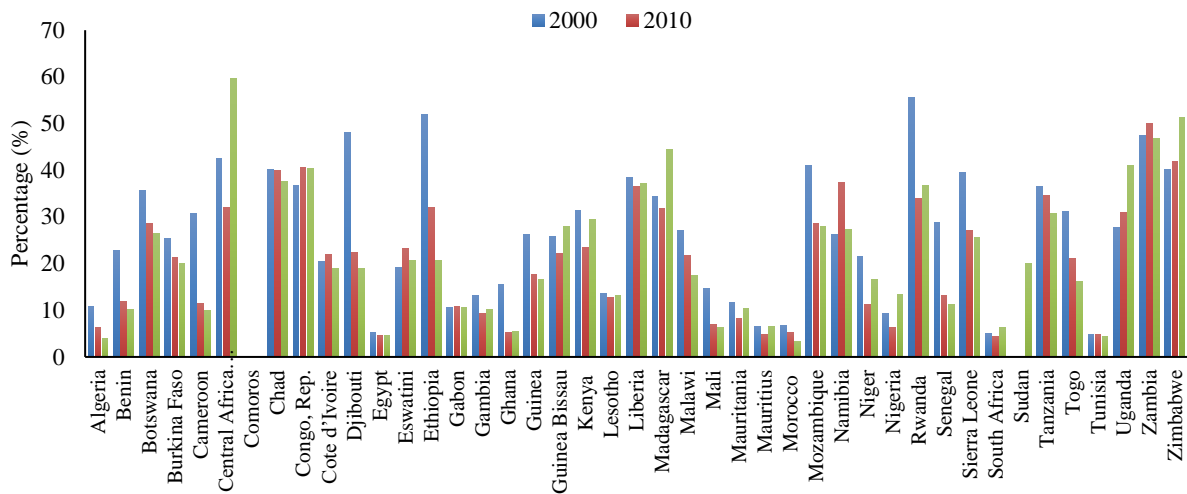


Figure 1. Prevalence of undernourishment in African population (%) in 2000-2019  
Source: Redrafted from von Grebmer et al. (2019)

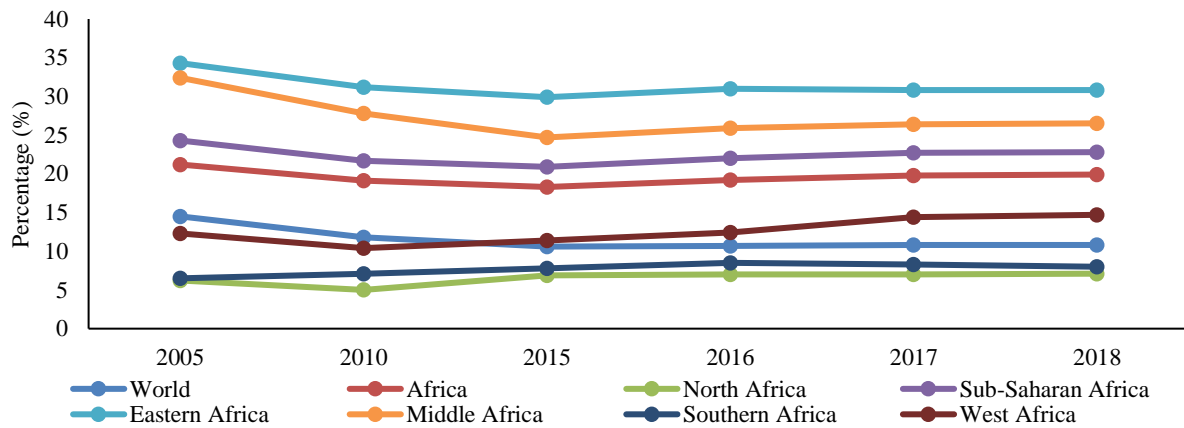


Figure 2. Prevalence of undernourished population in the world and across Africa  
Source: Redrafted from FAO et al. (2019)

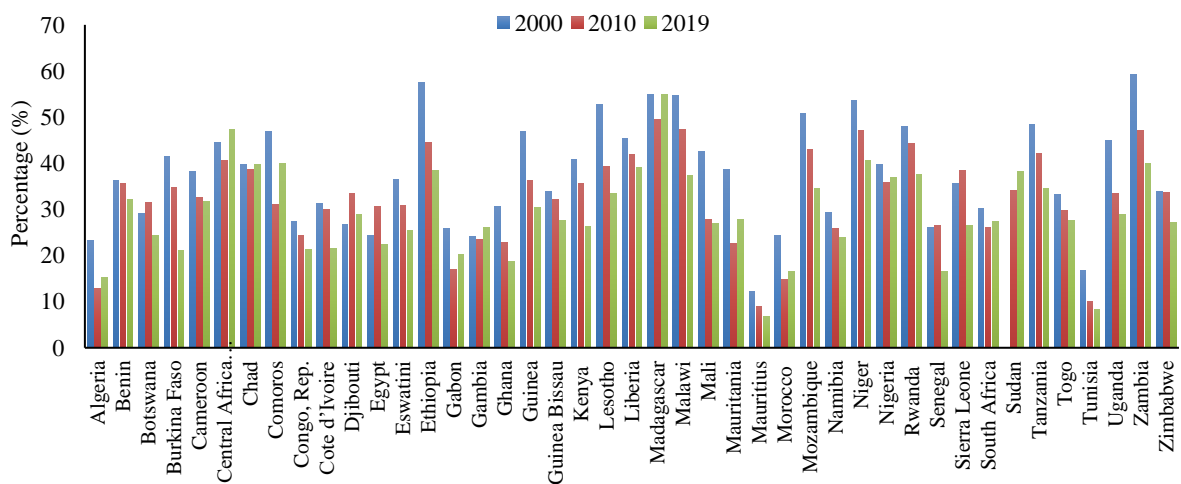


Figure 3. Prevalence of stunting in children under 5 (%) in Africa in 2000-2019  
Source: Redrafted von Grebmer et al. (2019)

Figure 4 demonstrates that Kenya, Lesotho, Burkina Faso, Ghana and Rwanda had steadily reduced their child wasting prevalence rates since 2000, from 7.4% to 4.2%, from 6.8% to 2.8%, from 15.6% to 8.6%, from 9.9% to 4.7% and from 8.7% to 2.1%, respectively (von Grebmer et al., 2019). However, there are fewer cases of COVID-19 among children with milder symptoms but the country's responses to the disease outbreak can have grave consequences for child nutrition and educational outcomes (FAO et al., 2020). It is difficult to predict the precise impact of the pandemic on the health and nutritional status of under-five children in Africa but what is certain is that the children of the vulnerable and poor households will witness unprecedented

health deterioration while COVID-19 pandemic lasts.

Furthermore, all African countries captured in 2019 GHI have been experiencing steady reductions in their under-five mortality rates since 2000. All North African countries (except Libya) had the lowest under-five children mortality rate (< 3%). Figure 5 shows the mortality rate of children under five years old for 43 African countries (von Grebmer et al., 2019). In the face of COVID-19, malnutrition rates can become extremely high, leading to even higher fatality rates. Pregnant women, young children, the chronically ill persons and the elderly usually have compromised immune functions predisposing them to infection and at high risk of death (WFP, 2020b).

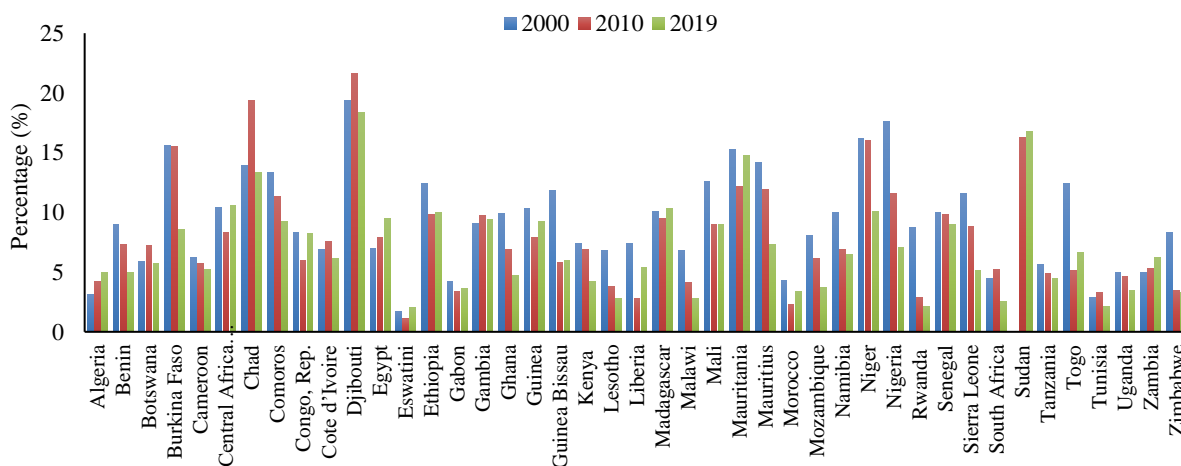


Figure 4. Prevalence of wasting in children under 5 (%) in Africa in 2000-2019  
Source: Redrafted from von Grebmer et al. (2019)

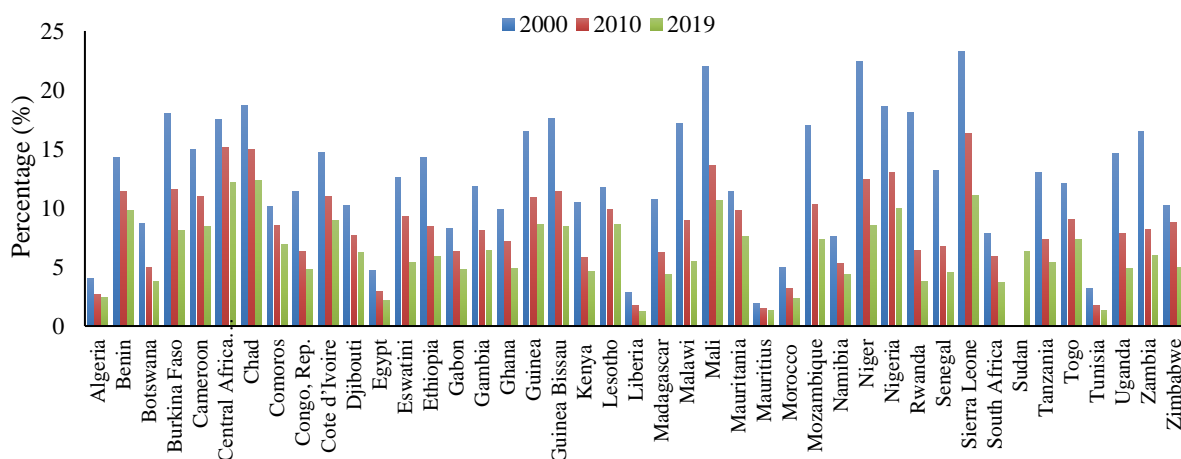


Figure 5. Prevalence of under-five mortality rates (%) in Africa in 2000-2019  
Source: Redrafted from von Grebmer et al. (2019)

### “A crisis within a crisis”- COVID-19 and Hunger

In the world today, the emergence of the novel coronavirus disease (COVID-19), which is ravaging the world in an unprecedented manner, is having monumental impacts on all areas of human endeavor more than any other occurrences in recent times. The disease was first reported from the city of Wuhan, Hubei province, China. The Chinese government officially reported the confirmed and diagnosed case to the World Health Organization (WHO) on 8 December, 2019 (Verity et al., 2020). On 11 March, 2020, WHO declared COVID-19 a global pandemic (Cucinotta and Vanelli, 2020; WHO, 2020c). As at 3 May 2020, 3,349,786 confirmed cases and a total fatality figure of 238,628 have been reported globally while the number of cases rose to 10, 357,662 and

508,055 deaths on 1 July, 2020 (WHO, 2020a, 2020b).

Table 2 presents the African region COVID-19 real time dashboard as at 4 May, 2020 with 44,483 cases; 1,801 fatalities and 14,921 recoveries. The number of cases witnessed consistent rise totaling 402,581 cases; 10,165 fatalities and 193,169 recoveries on 1 July, 2020 (Africa Centre for Disease Control, 2020). Even though the trend of the spread of the disease is still low in Africa, when compared with what obtains in Europe and the Americas, the number of cases and deaths in Africa is becoming worrisome, especially in the northern (Egypt, Tunisia), southern (South Africa) and western (especially Nigeria and Ghana) sub-regions. Efforts like quarantine and total or partial lockdowns are in force in many African countries in order to control the spread of the disease.

Table 2. Africa CDC COVID-19 dashboard as at 4 May and 1 July, 2020 (<https://africacdc.org>)

S/N	Country	Sub-region	Cases		Deaths		Recoveries	
			4 May	1 July	4 May	1 July	4 May	1 July
1.	Burundi	Central	19	170	1	1	7	125
2.	Cameroon	Central	2,077	12,592	64	313	953	10,100
3.	Central African Republic	Central	72	3,745	0	47	10	787
4.	Chad	Central	117	866	0	74	10	781
5.	DR Congo	Central	684	7,122	34	175	80	1,785
6.	Equatorial Guinea	Central	315	2,001	1	32	9	515
7.	Gabon	Central	335	5,394	5	42	85	2,420
8.	Congo, Rep	Central	229	1,245	10	40	25	473
9.	Sao Tome and Principe	Central	161	714	3	13	4	236
10.	Comoros	Eastern	3	303	0	7	0	200
11.	Djibouti	Eastern	1,112	4,682	2	54	686	4,524
12.	Eritrea	Eastern	39	203	0	0	26	54
13.	Ethiopia	Eastern	135	5,846	3	103	75	2,430
14.	Kenya	Eastern	465	6,673	24	149	167	2,089
15.	Madagascar	Eastern	149	2,303	0	22	98	1,006
16.	Mauritius	Eastern	334	341	10	10	315	326
17.	Rwanda	Eastern	259	1,025	0	2	124	447
18.	Seychelles	Eastern	11	81	0	0	6	11
19.	Somalia	Eastern	722	2,924	32	90	44	932
20.	South Sudan	Eastern	46	2,007	0	38	0	279
21.	Sudan	Eastern	592	9,257	41	572	52	4,014
22.	Tanzania	Eastern	480	509	16	21	167	178
23.	Uganda	Eastern	89	893	0	0	52	837
24.	Algeria	Northern	4,474	13,907	463	912	1,936	9,897
25.	Egypt	Eastern	6,465	68,311	429	2,953	1562	18,460
26.	Libya	Eastern	63	824	3	24	22	209
27.	Mauritania	Eastern	8	4,363	1	129	6	1,622
28.	Morocco	Eastern	4,903	12,596	174	228	1438	8,978

Table 2. Continued

S/N	Country	Sub-region	Cases		Deaths		Recoveries	
			4 May	1 July	4 May	1 July	4 May	1 July
29.	Tunisia	Eastern	1,013	1,174	42	50	643	1,031
30.	Angola	Southern	30	284	2	13	11	93
31.	Botswana	Southern	23	181	1	1	8	28
32.	Eswatini	Southern	112	812	1	11	12	408
33.	Lesotho	Southern	0	35	0	0	0	11
34.	Malawi	Southern	39	1,265	4	16	5	260
35.	Mozambique	Southern	80	889	0	6	19	232
36.	Namibia	Southern	16	257	0	0	8	24
37.	South Africa	Southern	6,783	151,209	131	2,657	2,549	73,543
38.	Zambia	Southern	124	1,632	3	30	78	1,348
49.	Zimbabwe	Southern	34	591	4	7	5	162
40.	Benin	Western	90	1,199	2	21	67	333
41.	Burkina Faso	Western	662	962	45	53	540	846
42.	Cabo Verde	Western	165	1,227	2	15	33	629
43.	Cote d'Ivoire	Western	1,398	9,499	17	68	653	4,273
44.	Gambia	Western	17	47	1	2	9	26
45.	Ghana	Western	2,169	17,741	18	112	229	13,268
46.	Guinea	Western	1,586	5,391	7	33	405	4,326
47.	Guinea-Bissau	Western	292	1,654	2	24	25	317
48.	Liberia	Western	158	780	18	36	58	324
59.	Mali	Western	563	2,181	27	116	213	1,474
50.	Niger	Western	750	1,075	36	67	518	943
51.	Nigeria	Western	2,558	25,694	87	590	400	9,746
52.	Senegal	Western	1,182	6,793	9	112	372	4,431
53.	Sierra Leone	Western	157	1,462	8	60	27	974
54.	Togo	Western	124	650	9	14	67	402
Total			44,483	405,581	1,801	10,165	14,921	193,169

Source: Authors' compilation using the data from Africa CDC COVID-19 dashboard between 4 May and 1 July 2020 (<https://africacdc.org>)

Recent report (FAO, 2019) has revealed that 820 million of people are suffering from hunger globally. Of the number of people in crises around the world, the 2020 Global Report on Food Crisis (Food Security Information Network, 2020) reported that almost 135 million people in 55 countries and territories are suffering from acute food insecurity, while 73 million of this figure are from 36 countries in Africa. With an increase in COVID-19 cases across Africa, there is a dire concern that African countries will witness further increases in the number of famished people because of the adverse effects of the partial or total lockdown of their countries on the economies.

Health and nutrition of the people in food crises will be further jeopardized due to inability to access health care that is already overstretched and inability to move about to fend for themselves. High level of malnutrition among

women, children and the elderly will likely worsen in poor families across Africa because of dwindling income. Furthermore, movement restrictions will lead to higher levels of malnutrition among children whose families depend on the government's home-grown school feeding program to augment their children's meals. Also, the livelihoods of smallholder farmers and suppliers involved in the program are at greater risk due to the disruptions that are being encountered because of the lockdown (FAO et al., 2020).

Dominique Burgeon, the Director of Emergency and Resilience Division of FAO said in a recent interview that:

As the number of infections in vulnerable countries-many populations that are already malnourished, weak and vulnerable to disease increases- 'a crisis within a crisis' could emerge and that in a vicious feedback



loop, will leave more people weaker and vulnerable to the disease (FAO, 2020).

Food supply chains may be adversely affected if not properly coordinated. Funds meant to develop the agricultural sector might likely be diverted to support the fight against COVID-19, especially in countries in the southern (South Africa), northern (Egypt, Tunisia and Morocco) and western (Nigeria and Ghana) regions with high confirmed cases and increasing numbers of deaths.

### Mitigation measures in Africa

In African continent, there are some nature-induced mitigating factors that can hamper COVID-19 pandemic, especially in SSA. The warmer climate in most SSA has the capacity that might slow down the virus' transmission; the age

structure in Africa (mostly youths) differs in a great extent from those of the regions with huge number of confirmed cases and fatalities (European, Americas and Western Pacific) (WFP, 2020a, 2020c; WHO, 2020b). The share of people with the highest risk (by age) of coming down with severe disease or death is lower in Africa than in, for example, USA, China or Europe; less dense and predominantly rural-based population with limited travel networks both within and between countries could reduce the pace at which COVID-19 spreads (WFP, 2020a, 2020c).

Most African governments have put various measures in place to mitigate the effect of the disease on their economies and general wellbeing of their people. Some of these measures are outlined in Table 3 and Table 4.

Table 3. Financial and economic measures to mitigate the impact of COVID-19 in Africa

African countries	Responses to COVID-19
Kenya	Government of Kenya, through the World Bank, announced that it is making \$60 million available to Kenya's health sector to help it deal with the COVID-19 outbreak.
Mauritius	The Bank of Mauritius cuts its Key Repo Rate by 50 basis points to 2.85% amid the COVID-19 outbreak, which is expected to have a significant impact on the domestic economy.
Ghana	Ghana's Central Bank cuts its interest rate to from 16% to 14.5% due to the negative economic impacts it anticipates from the spread of the coronavirus.
Egypt	The President has indicated that the government will allocate 100 billion Egyptian pounds (\$6.4 billion) to finance a 'comprehensive' state plan for combating the coronavirus outbreak. The president has also announced that the government will allocate 20 billion Egyptian pounds (\$1.27 billion) to support the stock exchange.
Morocco	Morocco's King Mohammed VI has ordered the government to create a 10 billion-dirham (\$1 billion) fund to upgrade health infrastructure, help vulnerable economic sectors such as tourism, maintain jobs and mitigate the social repercussions of the outbreak.
Seychelles	The Central Bank of Seychelles cut its monetary policy rate by 100 basis points to 4.0%, indicating that this is the first phase of its response to the challenge from the spread of the coronavirus, which is expected to lower this year's earnings from tourism by 70% and trigger a double-digit drop in economic growth.
South Africa	South African Reserve Bank cuts its main lending rate by 100 basis points to 5.25% as it seeks to offset the drag from the coronavirus outbreak and the plunge in oil prices. It has also announced that it will begin buying an unspecified amount of government bonds as part of additional emergency policy measures aimed at easing a severe liquidity crunch triggered by the coronavirus.
Uganda	The Bank of Uganda (the Central Bank of the Republic of Uganda) sold dollars in the interbank market to support the local currency, which has been experiencing a sharp depreciation due to coronavirus-related disruptions.
Nigeria	The government allocates \$163.6 million for the prevention and mitigation plans against COVID-19.

Table 3. *Continued*

African countries	Responses to COVID-19
Benin	The government allocates \$102 million for the prevention and mitigation plans against coronavirus.
Cote d'Ivoire	The government allocates \$1.4 million for the prevention and mitigation plans against coronavirus.
Guinea	The government allocates \$12.8 million for the prevention and mitigation plans against coronavirus
Tunisia	Central Bank of Tunisia cuts its key interest rate by 100 basis points to 6.75%, as it responds to the negative impact of the coronavirus on the global growth outlook. The government has also announced that it will allocate 2.5 billion dinars (\$850 million) to combat the economic and social effects of the coronavirus health crisis.
DR Congo	The Central Bank of the Congo cuts its base interest rate to 7.5% from 9.0% in order to cushion the economic impact of the coronavirus outbreak.

Source: CRS (2020) and WFP (2020d)

Table 4. Selected African governments' policies to mitigate the effects of COVID-19 on food security

	Food Security Components	Domains	Selected African governments' policies to mitigate the effects of COVID-19 on food security
Food production	Availability	Physical access	<ul style="list-style-type: none"> <li>• Small scale farmers are allowed to continue operations (South Africa and Nigeria).</li> <li>• Farming activities, harvesting and storage of farm produce are continued to prevent wastage of agricultural produce (South Africa and Nigeria).</li> <li>• Production, distribution and supply of food products are continued across the country (South Africa, Nigeria, Ethiopia, Rwanda and Uganda).</li> </ul>
		Food quantity	
Food demand	Availability Accessibility Utilization	Physical access	<ul style="list-style-type: none"> <li>• Smallholder farmers, informal food traders, grocery stores, wholesale produce markets, food markets are to continue their activities to ensure food availability in the right quantity and quality (Nigeria).</li> <li>• Only shops selling food items are allowed to operate (South Sudan).</li> <li>• House-to-house food distribution is applied to vulnerable urban households (Rwanda and Uganda).</li> <li>• Temporary neighborhood food markets are established to enhance the physical access to food; food distribution targets internally displaced persons (IDPs) and refugee camps (Nigeria).</li> <li>• The elderly and those with disabilities are given preference in the distribution of food (South Africa and Nigeria).</li> <li>• The elderly and those with disabilities are given preference in the distribution of grants at cash pay points (South Africa).</li> <li>• Banks are to continue operations (Nigeria, South Africa).</li> <li>• Social grant payments and cash transfers are given to the vulnerable in the societies (South Africa and Nigeria).</li> <li>• Introduction of tax measures such as tax subsidy, employment tax incentive, debt relief finance schemes, loan repayment waivers, trade policies etc. is carried out</li> </ul>
		Economic Access Food quantity Food quality	

Table 4. Continued

	Food Security Components	Domains	Selected African Governments' Policies to Mitigate the Effects of COVID-19 on Food Security
Food distribution and storage	Availability	Physical access Food quantity	<p>to assist employers and employees to cushion the effects of COVID-19 on their finances (South Africa and Nigeria).</p> <ul style="list-style-type: none"> <li>• Farming activities, harvesting and storage of farm produce are to continue to prevent wastage of agricultural goods.</li> <li>• Transportation of agricultural produce is to continue throughout the country (Nigeria).</li> <li>• Distribution and supply of food products are to continue across the country (Nigeria and South Africa).</li> <li>• House-to-house food distribution is targeted for vulnerable urban households (Rwanda and Uganda).</li> <li>• Temporary neighborhood food markets are established to enhance physical access to food (Nigeria); food distribution as is targeted for internally displaced persons (IDPs) and refugee camps (Nigeria).</li> </ul>
	Utilization	Food safety Food quality	<ul style="list-style-type: none"> <li>• Food safety policies regarding sick and stray animals, waste and fluids in markets are made (South Africa); food safety policies regarding spoiled meat, raw eggs etc. are stipulated.</li> <li>• Public enlightenment campaigns on general food preparation advice are carried out (Nigeria and South Africa).</li> <li>• Public enlightenment campaigns on hand-washing are launched to enhance food safety; public enlightenment campaigns are aimed at educating the people on different types of nutritious foods and how to cook healthily (most African countries).</li> </ul>
Throughout supply chain	Stability	Availability Accessibility Utilization	<ul style="list-style-type: none"> <li>• These policies are to be reviewed periodically to enhance flexibility and efficiency.</li> <li>• Regulation enforcement throughout COVID-19 pandemic period is necessary for successful outputs.</li> <li>• In making sure that food production systems are not hampered during this pandemic, there is a need to ensure physical access and food availability in all African countries.</li> <li>• There is still lack of focus in sustainable agriculture which can boost nations' agricultural productivity, especially in this period of COVID-19.</li> </ul>

Source: Jones et al. (2013); African Business Magazine (2020); GAIN (Global Alliance for Improved Nutrition) (2020); Human Right Watch (2020); National Disaster Risk Management Commission (NDRMC) and OCHA Ethiopia (2020); SAG (South African Government) (2020a, 2020b, 2020c, 2020d); SAMF (South African Ministry of Finance) (2020); WFP (2020d)

While most of the countries are on partial or total lockdown due to COVID-19 pandemic, there is an urgent need for the African region governments to redouble their efforts in expanding and improving emergency food

assistance and social protection programs for cushioning the impact of the pandemic (boosting food access) on mostly poor and vulnerable mothers and children of school age. Smallholder farmers should be supported for an enhanced

productivity and the government should facilitate environment for food produce marketing and possible introduction of e-commerce channels. There is an urgent need to keep food value chain active by making concerted effort in finding solutions to logistic disruptions in order to have an unhindered movement of food commodities across the countries amidst COVID-19 pandemic.

In addition to the afore-mentioned mitigating factors aimed at reducing the effect of COVID-19 pandemic in Africa, sustainable agricultural practices also have the potential of mitigating hunger and ensuring food security. Lal (2008) and Wickramasinghe (2014) have pointed out the following sustainable agricultural practices that can ensure improved agricultural productivity in Africa:

- (i) improvement in management practices, such as sustainable use of sub-soil fertigation techniques to achieve adequate level of nutrient and water supply needed for optimum growth,
- (ii) reduced disturbance of soil surface to provide a continuous cover of a plant canopy or residue mulch,
- (iii) use of complex cropping/farming systems which invigorate nutrient cycling and enhance the input use efficiency, and
- (iv) implementation of joint agricultural development programs aimed at managing water sources, soil, bio-diversity, pest management, as well as vulnerability mapping and planning.

## CONCLUSIONS

Many African countries still have high GHI scores, child mortality rates and prevalence of undernourishment, stunting and child wasting. In the face of the COVID-19 pandemic, hunger prevalence is on the increase. Thus, a lot efforts need to be done to realize the zero-hunger target by 2030. Beside the existing efforts led by the African governments, sustainable agricultural practices are recommended to mitigate hunger and ensure food security during and after the pandemic. Improving the agricultural management practices, reducing the disturbance of soil surface, using complex cropping/farming systems and implementing joint agricultural development programs are suggested.

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